

BRITISH COOPERATIVE CLINICAL GROUP*

SYPHILIS IN THE FIRST YEAR OF INFECTION

COUNTRY OF ORIGIN STUDY, 1963

A study has been made of the country of origin of patients with early syphilis in the first year of infection seen in the venereal diseases clinics of England and Wales and of Scotland in 1963. As this is the first such study of syphilis made by the British Co-operative Clinical Group, no comparative trends with previous years can be illustrated, although the data are contrasted with those relating to patients with gonorrhoea treated in the same clinics during the same year.

The study concerns the country of origin of 1,513 patients (1,238 males and 275 females) treated in the clinics of England and Wales and Scotland in 1963, the data for Scotland being considered separately.

Source of Data

173 clinics in 138 towns and cities participated in the study: 163 clinics were situated in 128 towns and cities in England and Wales and ten in ten towns and cities in Scotland. The 1,260 patients (1,009 males and 251 females) treated in the clinics of England and Wales comprise 90·6 of the national total (88·9 per cent. of the males and 98·4 per cent. of the females) (Table I). In Scotland approximately 10 times, and in

England and Wales approximately 26 times, as many cases of gonorrhoea as of early syphilis were treated in the same clinics.

TABLE I
PERCENTAGE OF NATIONAL COVERAGE, BY SEX

Area		Sex		Total	
		Male	Female	Early Syphilis	Gonorrhoea (for comparison)
England and Wales	Cases included in Survey	1,009	251	1,260	33,401
	Total Cases in England and Wales Percentage covered by Survey	1,135 88·9	255 98·4	1,390 90·6	36,049 92·7
Scotland		229	24	253	2,593
Total Included in Survey		1,238	275	1,513	35,994

Geographical Situation of Clinics and Cases Treated

The clinics are analysed in Table II according to the population of the town or city in which each is situated. As with gonorrhoea, there is a marked concentration of cases of early syphilis in the larger towns and cities, particularly London (Table II).

TABLE II
SITUATION OF CLINICS AND NUMBER OF CASES OF EARLY SYPHILIS

Area		Population Covered	No. of Towns or Cities	Clinics	Total Cases	Cases per Clinic	Cases per 100,000 Population	
							Early Syphilis	Gonorrhoea
England and Wales	London	8,171,902*	1	24	739	30·8	9·0*	187·5
	Over 500,000 . . .	3,024,779	4	8	167	20·9	5·5	234·5
	100,000-500,000 . .	7,118,321	37	45	252	5·6	3·5	118·7
	50,000-100,000 . .	2,888,421	41	41	56	1·4	2·0	65·4
	Under 50,000 . . .	1,271,414	45	45	46	1·0	3·6	50·4
	Total	22,474,837	128	163	1,260	7·7	5·6	148·6
Scotland		2,142,439	10	10	253	25·3	12·0	121·1
Total		24,617,276	138	173	1,513	8·7	6·2	146·2

* The London Administrative Area has a population of 3,179,980; on this basis there would be 23·2 cases per 100,000.

That the concentration of cases of early syphilis in London was even greater than that of gonorrhoea is further illustrated in Table III. No less than 59·8 per cent. of male cases and 53·8 per cent. of female cases of syphilis in the first year were treated in the capital, compared with 47·3 per cent. of males and 40·9 per cent. of females with gonorrhoea.

for 96·1 per cent. in Scotland, and for 62·6 per cent. in England and Wales, where West Indians made up 6·6 per cent. and all other immigrants 30·8 per cent. Those born in the United Kingdom comprised an appreciably higher percentage of cases of early syphilis than of gonorrhoea, and the West Indians a much lower percentage.

TABLE III
PERCENTAGE OF CASES OF SYPHILIS AND GONORRHOEA TREATED IN DIFFERENT CLINICS, BY SEX
(England and Wales only)

Area	No. of Clinics	Sex					
		Male			Female		
		No. with Syphilis	Per cent.		No. with Syphilis	Per cent.	
			Syphilis	Gonorrhoea		Syphilis	Gonorrhoea
London	24	604	59·8	47·3	135	53·8	40·9
Over 500,000	8	129	12·8	21·0	38	15·1	21·9
100,000–500,000	45	195	19·3	24·2	57	22·7	28·9
50,000–100,000	41	46	4·6	5·6	10	4·0	5·8
Under 50,000	45	35	3·5	1·8	11	4·4	2·4
Totals	163	1,009	100·0	100·0	251	100·0	100·0

Male:Female Ratio

The male:female ratio is shown by clinics in Table IV.

In England and Wales the ratio was 4:1 compared with 3·5:1 for gonorrhoea. The figures provide few clues as to bias arising from homosexuality in towns and cities of various sizes, although the higher male:female ratios for syphilis than for gonorrhoea in most communities would appear to indicate this influence.

TABLE IV
MALE: FEMALE RATIO FOR EARLY SYPHILIS AND GONORRHOEA, BY SIZE OF TOWN OR CITY

Area		Sex		Male:Female Ratio	
		Male	Female	Early Syphilis	Gonorrhoea
England and Wales	London	604	135	4·5:1	4·0:1
	Over 500,000	129	38	3·4:1	3·3:1
	100,000–500,000	195	57	3·4:1	2·9:1
	50,000–100,000	46	10	4·6:1	3·4:1
	Under 50,000	35	11	3·2:1	2·6:1
Total		1,009	251	4·0:1	3·5:1
Scotland		229	24	9·5:1	6·3:1

Racial Distribution

Male Patients

Percentage of Immigrants.—The racial distribution of male patients with early syphilis is shown in Table V. United Kingdom-born persons accounted

for 96·1 per cent. in Scotland, and for 62·6 per cent. in England and Wales, where West Indians made up 6·6 per cent. and all other immigrants 30·8 per cent. Those born in the United Kingdom comprised an appreciably higher percentage of cases of early syphilis than of gonorrhoea, and the West Indians a much lower percentage.

TABLE V
RACIAL DISTRIBUTION OF MALE PATIENTS, 1963

Country of Origin	Area			
	Scotland	England and Wales		
		No. of Cases	Percentage	
			Syphilis	Gonorrhoea
West Indies (Negro)	1	67	6·6	25·2
Africa (Negro)	—	13	1·3	3·9
Other Negro	—	8	0·8	1·2
Asia	2	71	7·0	7·8
Mediterranean	—	35	3·5	6·2
United Kingdom	220*	632	62·6	46·3
Eire	—	48	4·8	4·8
Other Europe	6	94	9·3	3·2
All Other Non-Negro	—	41	4·1	1·4
Total	229	1,009	100·0	100·0

* 96·1 per cent. early syphilis;
86·7 per cent. of gonorrhoea.

Racial Distribution according to Size of Towns and Cities.—Current and previous studies of patients with gonorrhoea have shown a noticeably higher total and proportional concentration of infected immigrants in London and the larger towns and cities.

Although, as has been stated, more than one half of the total numbers of early syphilis infections were treated in London, within the statistical limits of the

smaller numbers concerned, the proportion of immigrants infected with syphilis showed no significant relationship with the size of the town or city in which the clinic was situated (Table VI). A greater total number of homosexual patients with syphilis in London would contribute to this.

TABLE VI
RACIAL DISTRIBUTION OF MALE PATIENTS,
BY POPULATION OF TOWNS AND CITIES, 1963

Area		Race					
		West Indians		Other Immigrants		Born in United Kingdom	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
England and Wales	London	36	6.0	173	28.6	395	65.4
	Over 500,000	6	4.7	47	36.4	76	58.9
	100,000-500,000	18	9.2	67	34.4	110	56.4
	50,000-100,000	2	8.6	13	28.4	31	63.0
	Under 50,000	5		10		20	
Total		67	6.6	310	30.7	632	62.6
Scotland		1	0.4	8	3.57	220	96.1

Racial Distribution of Early Syphilis compared with that of Gonorrhoea.—This is summarized in Table VII.

The proportion of those with early syphilis born in the United Kingdom was higher than the proportion of those with gonorrhoea, but that of the West Indians was markedly lower. The proportions of other immigrants were similar for both diseases.

TABLE VII
RACIAL DISTRIBUTION OF MALE PATIENTS WITH EARLY
SYPHILIS AND GONORRHOEA
(England and Wales only)

Race	Percentage	
	Early Syphilis	Gonorrhoea
West Indians	6.6	25.2
Other Immigrants	30.7	28.5
United Kingdom	62.6	46.3
Total	100.0	100.0

The reasons for these marked differences include the following:

- (1) Those born in the United Kingdom are more likely to have regular sexual partners than are immigrants. Syphilis has been shown to be associated with a more constant sexual association, whereas gonorrhoea more frequently arises from a transient encounter and is more likely to show itself and to be cured before the regular partner is infected.
- (2) The West Indians are more frequently heterosexually promiscuous.

(3) United Kingdom-born homosexuals can establish a continuing relationship more easily than immigrants. This would help to account for the larger proportion of United Kingdom-born persons with early syphilis, since homosexuals are known to include a much larger proportion of cases of syphilis.

(4) Colour discrimination amongst homosexuals may be another factor; it is the Negro groups among the "other immigrants" which show a smaller proportion of early syphilis than of gonorrhoea while "other immigrants" of European stock show a larger proportion.

(5) Homosexuality may be less common among Negroes. Few firm data on this point are available.

(6) The repeated infections with gonorrhoea which are noted particularly in Negro groups may lead to repeated courses of treatment with penicillin, and so cause the suppression of some syphilis infections in the incubation period.

(7) Previous infection with yaws causing a degree of seropositivity may give some persons immunity against syphilis. Both the West Indians and the African Negroes (also from yaws areas) have fewer cases of syphilis, but immigrants not from yaws areas, including Asiatics, show no such trend.

It is probable that a number of these factors act in concert.

Gonorrhoea:Early Syphilis Ratio.—These points are illustrated further when the gonorrhoea:early syphilis ratio is considered according to racial groups (Table VIII).

TABLE VIII
GONORRHOEA:EARLY SYPHILIS RATIO IN MALES,
BY RACE, IN ORDER OF SIZE
(England and Wales only)

Race	No. of Cases		Gonorrhoea:Early Syphilis Ratio
	Gonorrhoea	Early Syphilis	
Other Non-Negro	354	41	8.6:1
Europe	849	94	9.0:1
United Kingdom	12,030	632	19.0:1
Eire	1,257	48	26.2:1
Other Negro	303	8	37.9:1
Asia	2,029	71	42.7:1
Mediterranean	1,578	35	45.1:1
Africans	1,016	13	78.2:1
West Indians	6,526	67	97.4:1
Total	25,942	1,009	25.7:1

(Ratio for "other immigrants"—23.8:1)

White-skinned persons, including Europeans, showed the lowest ratios (8.6 to 26.2:1). Negroes from yaws areas (West Indians and Africans) showed the highest ratios (no less than 78.2 to 97.4:1). Intermediate ratios (37.9 to 45.1:1) were

found in patients of Asiatic, Mediterranean, and other Negro stock.

Female Patients

Percentage of Immigrants.—The racial distribution of female patients with early syphilis is shown in Table IX.

TABLE IX
RACIAL DISTRIBUTION OF FEMALE PATIENTS, 1963

Country of Origin	Area			
	Scotland	England and Wales		
		No. of Cases	Percentage	
			Syphilis	Gonorrhoea
West Indies (Negro)	—	73	29.1	10.5
Africa (Negro)	—	1	0.4	0.6
Other Negro	—	—	—	0.4
Asia	—	5	2.0	0.4
Mediterranean	—	7	2.8	1.3
United Kingdom	24*	149	59.4	77.9
Eire	—	10	4.0	5.9
Other Europe	—	5	1.9	2.2
All Other Non-Negro	—	1	0.4	0.8
Total Cases	24	251	100.0	100.0

* 100 per cent.

Significant differences may be noted from the male data. Slightly fewer infected females (59.4 per cent.) with early syphilis were born in the United Kingdom, but no less than 29.1 per cent. of infections occurred in West Indian females and 11.5 per cent. in other immigrants. In males these percentages were 62.6, 6.6, and 30.7 respectively. In Scotland all 24 female cases of syphilis occurred in women born in the United Kingdom compared with 96.1 per cent. of male cases.

Racial Distribution according to Size of Towns and Cities.—This is shown in Table X. Unlike the figures for males, within the statistical limitations of the

TABLE X
RACIAL DISTRIBUTION OF FEMALE PATIENTS
BY POPULATION OF TOWNS AND CITIES, 1963

Area		Race					
		West Indians		Other Immigrants		Born in United Kingdom	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
England and Wales	London Over 500,000	57	42.2	21	15.6	57	42.2
	100,000–500,000	5	13.8	2	6.9	31	79.3
	50,000–100,000	7		4		46	
	Under 50,000	4		—		4	
	Total	73	29.1	29	11.5	149	59.4
Scotland		—	—	—	—	24	100.0

small numbers involved, there was a higher proportion of female immigrants with syphilis in London than elsewhere; indeed, there were as many West Indian females with early syphilis in London as women born in the United Kingdom.

Racial Distribution of Early Syphilis compared with that of Gonorrhoea.—This is summarized in Table XI.

The proportion of other immigrants is similar in the two diseases, but there was a lower proportion of women born in the United Kingdom with early syphilis, because of the large numbers of West Indian females.

TABLE XI
RACIAL DISTRIBUTION OF FEMALE PATIENTS WITH
EARLY SYPHILIS AND GONORRHOEA
(England and Wales only)

Race	Percentage	
	Early Syphilis	Gonorrhoea
West Indians	29.1	10.5
Other Immigrants	11.5	11.6
United Kingdom	59.4	77.9
Total	100.0	100.0

Gonorrhoea: Early Syphilis Ratio.—Table XII shows a reverse pattern to that for the male. The highest ratio is seen in those born in the United Kingdom and appreciably lower ratios in female immigrants, especially West Indians. In West Indian females the ratio was 10.7:1, while in West Indian males it was no less than 97.4:1 (see Table VIII).

TABLE XII
GONORRHOEA: EARLY SYPHILIS RATIO IN FEMALES,
BY RACE
(England and Wales only)

Race	No. of Cases		Gonorrhoea: Early Syphilis Ratio
	Gonorrhoea	Early Syphilis	
West Indians	781	73	10.7:1
Other Immigrants	869	29	30.0:1
United Kingdom	5,809	149	39.0:1
Totals	7,459	251	29.7:1

This difference is doubtless due to the fact that the comparatively few West Indian females with syphilis are usually more or less regular consorts of infected males. Either this group was drawn from those West Indian females who had initially no sero-positivity from past yaws, or any small partial immunity conferred by previous yaws infections was unable to withstand repeated exposure. Further investigation of this point would be of interest.

Male:Female Ratio by Race (Table XIII)

The male:female ratio in West Indians with syphilis is much lower than in other groups. In fact the number of West Indian females with early syphilis in the clinics participating in the study exceeded the number of West Indian males.

TABLE XIII
MALE:FEMALE RATIO FOR EARLY SYPHILIS
COMPARED WITH GONORRHOEA, BY RACE
(England and Wales only)

Race	Early Syphilis			Gonorrhoea
	Males	Females	Male:Female Ratio	Male:Female Ratio
West Indians ..	67	73	0.9:1	8.4:1
Other Immigrants	310	29	10.7:1	8.5:1
United Kingdom	632	149	4.2:1	2.1:1
Total	1,009	251	4.0:1	3.5:1

Summary and Conclusions

- (1) A study is presented of the country of origin of 1,513 patients with early syphilis treated in 173 clinics of England and Wales and Scotland during 1963, and a comparison is made with similar data for patients with gonorrhoea treated in the same clinics during the same year. The percentage of the national total of cases of early syphilis included in the study for England and Wales was 90.6 per cent.
- (2) As with gonorrhoea a concentration of early syphilis was noted in London and the larger cities. No less than 59.8 per cent. of male cases and 53.8 per cent. of female cases were treated in London.
- (3) 96.1 per cent. of male cases of early syphilis in Scotland occurred in men born in the United Kingdom. In England and Wales 62.6 per cent occurred in men born in the United Kingdom, 6.6 per cent. in West Indians, and 30.7 per cent. in other immigrants. These figures differed significantly from those for gonorrhoea, the proportions for syphilis being higher for those born in the United Kingdom, markedly lower for West Indians, and about the same for other immigrants. Some possible reasons for these differences are discussed.
- (4) The gonorrhoea:syphilis ratio in males differed markedly with race, being highest (78.2 to 97.4:1) in Negroes from yaws areas; in Europeans and in men from the United Kingdom and Eire the ratio was only 9 to 26.2:1.
- (5) The distribution of male immigrants with early syphilis was much less variable than that of male immigrants with gonorrhoea, higher proportions of whom were found in London and the larger cities.
- (6) All the female cases of early syphilis in Scotland occurred in women born in the United Kingdom. In England and Wales 59.4 per cent. occurred in women born in the United Kingdom, no less than 29.1 per cent. in West Indians, and 11.5 per cent. in other immigrants.
The proportion of other female immigrants was much the same in early syphilis as in gonorrhoea, but that of females born in the United Kingdom was significantly lower and that of female West Indians nearly 3 times higher than in gonorrhoea.
- (7) The gonorrhoea:syphilis ratio in females differed from that in males. The ratios were similar in other immigrants (30 and 23.8:1), greater in females born in the United Kingdom (39 and 19:1), and very much less in female West Indians (10.7 and 97.4:1).
- (8) The male:female ratio for persons born in the United Kingdom was 4.2:1 for syphilis compared with 2.1:1 for gonorrhoea. For other immigrants the ratios were closer (10.7:1 for syphilis and 8.5:1 for gonorrhoea). In West Indians the difference was very striking (0.9:1 for syphilis and 8.4:1 for gonorrhoea); in fact more female than male West Indians were treated for early syphilis.
- (9) These interesting differences in the racial distribution of syphilis and gonorrhoea are considered to arise from the fact that regular consorts are more likely to be infected with syphilis when present than with gonorrhoea, because the latter declares itself sooner and enables some patients to be treated before the disease has been transmitted to the regular consort. The more frequent promiscuity among West Indians is another not improbable factor. Homosexuality is likely to be responsible for some of the differences between the two sexes and may also be involved in the question of racial distribution. The treatment of repeated infections with gonorrhoea with antibiotics, and the possible partial immunity to syphilis acquired by some patients from yaws areas may also be concerned in the different patterns of the two diseases.

Étude faite par un groupe de dispensaires anglais sur la syphilis pendant la première année de l'infection, en fonction du pays d'origine des malades.

RÉSUMÉ

- (1) Dans l'exposé suivant on a étudié 1513 malades atteints de syphilis précoce, traités dans 173 dispensaires d'Angleterre, du pays de Galle, et de l'Écosse, pendant l'année 1963, en fonction de leur pays d'origine. On a comparé ces observations avec des observations identiques de malades atteints de gonorrhée aigüe pendant la même année. Les cas étudiés en Angleterre et au pays de Galle représentent 90,6% du total des cas nationaux de syphilis précoce.
- (2) De même que pour la gonorrhée on nota que les cas de syphilis précoce se concentrent à Londres et dans les grandes villes. Pas moins de 59,8% des cas survenant chez les hommes et 53,8% des cas survenant chez les femmes furent traités à Londres. Ce rapport des cas "mâles" sur les cas "femelles" dépendit moins de l'importance de la ville pour la syphilis que pour la gonorrhée.
- (3) En Écosse 96,1% des cas mâles de syphilis précoce survinrent chez des hommes nés au Royaume-Uni. En Angleterre et au pays de Galle 62,6% survinrent chez des hommes nés au Royaume-Uni 6,6%, chez des antillais, et 30,7% parmi d'autres émigrants. Ces chiffres diffèrent de façon appréciable de ceux obtenus pour la gonorrhée. En effet la proportion des cas de syphilis est plus élevée parmi les habitants du Royaume-Uni, bien plus basse chez les antillais, et identique parmi les autres émigrants. Les raisons probables pour ces différences sont discutées plus loin.
- (4) Le rapport gonorrhée-syphilis chez les hommes varie de façon appréciable avec la race, étant plus élevé (78,2-97,4 à 1) parmi les noirs des pays où sévit le pian. Parmi les Européens et les hommes du Royaume-Uni et d'Irlande le rapport ne fut que de (9-26,2 à 1).
- (5) Chez les émigrants, la répartition des cas de syphilis précoce fut plus homogène que celle des cas de gonorrhée dont la plupart se trouvèrent à Londres et dans les grandes cités.
- (6) Tous les "cas femelles" de syphilis précoce en Écosse survinrent chez des femmes nées au Royaume-Uni. En Angleterre et au pays de Galle 59,4% se trouvèrent chez des femmes nées au Royaume-Uni, non moins de 29,1% parmi des antillaises, et 11,5% parmi d'autres émigrantes.
Le nombre des cas de syphilis précoce par rapport aux cas de gonorrhée fut sensiblement le même chez les femmes du groupe "autres émigrants", fut notoirement moindre parmi les femmes du Royaume-Uni, et fut trois fois plus grand parmi les antillaises.
- (7) Le rapport gonorrhée-syphilis fut différent chez les femmes et les hommes. Il fut identique dans le cas des autres émigrants (30 et 23-8 à 1), plus élevé parmi les femmes du Royaume-Uni (39 et 19 à 1), et beaucoup moins élevé parmi les antillaises (10,7 et 97,4 à 1).
- (8) Le rapport cas mâles/cas femelles fut de 4,2 à 1 au Royaume-Uni pour la syphilis précoce et de 2,1 à 1 pour la gonorrhée. Pour les autres émigrants les rapports furent plus identiques, 10,7 à 1 pour la syphilis et 8,5 à 1 pour la gonorrhée. Parmi les antillais la différence fut frappante 0,9 à 1 pour la syphilis précoce et 8,4 à 1 pour la gonorrhée. En fait, il y eut plus de cas de syphilis précoce traités parmi les femmes que parmi les hommes.
- (9) Ces différences intéressantes dans la répartition raciale de la syphilis et de la gonorrhée sont pense-t-on, dues au fait, que les conjoints réguliers sont plus susceptibles d'être infectés dans les cas de syphilis précoce que dans ceux de gonorrhée parce que cette dernière se manifeste plus tôt, ce qui permet à certains d'être traités avant que la maladie ne se propage au conjoint. La promiscuité plus fréquente chez les antillais est un autre facteur vraisemblable d'explication. Tandis que l'homosexualité est une cause probable de différence entre les deux sexes et joue sans doute un rôle dans la répartition raciale des cas. Le traitement des rechutes de gonorrhée avec les antibiotiques, et l'immunité partielle envers la syphilis acquise par certains sujets venant des régions où le pian est endémique, peut aussi entrer en jeu dans la modalité de répartition des deux maladies.